

FORM PTO-1449

## INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.  
1997.0010003APPLICATION NO.  
09/698,249APPLICANT  
Fu et al.FILING DATE  
October 30, 2000GROUP  
2124

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
<i>man</i>	AA1	3,646,337	02/1972	Bifulco, Jr.			
	AB1	3,974,367	08/1976	Mayer			
	AC1	4,340,939	07/1982	Mayer			
	AD1	4,719,833	01/1988	Katoh et al.			
	AE1	5,276,633	01/1994	Fox et al.			
	AF1	5,373,236	12/1994	Tsui et al.			
	AG1	5,500,874	03/1996	Terrell			

RECEIVED

AUG 29 2003

Technology Center 2100

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AH1						
	AI1						
	AJ1						

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	1	Ahn, Y. et al., "VLSI Design Of A Cordic-Based Derotator," <i>Proc. 1998 IEEE Int. Symp. Circuits Syst.</i> , Vol. II, pp. 449-452 (May 1998).
	AL	1	Andronico, M. et al., "A New Algorithm for Fast Synchronization in a Burst Mode PSK Demodulator," <i>Proc. 1995 IEEE Int. Conf. Comm.</i> , Vol. 3, pp. 1641-1646 (June 1995).
	AM	1	Arivoli, T. et al., "A Single Chip DMT Modem for High-Speed WLANs," <i>Proc. 1998 Custom Integrated Circuits Conf.</i> , IEEE, pp. 9-11 (May 1998).
	AN	1	Boutin, N., "An Arctangent Type Wideband PM/FM Demodulator With Improved Performance," <i>IEEE Trans. Consumer Electron.</i> , Vol. 38, No. 1, pp. 5-9 (February 1992).
	AO	1	Buchanan, K. et al., "IMT-2000: Service Provider's Perspective," <i>IEEE Personal Communications</i> , pp. 8-13 (August 1997).
	AP	1	Chen, A. et al., "Modified CORDIC Demodulator Implementation for Digital IF-Sampled Receiver," <i>Proc. Globecom 1995</i> , Vol. 2, pp. 1450-1454 (1995).

EXAMINER

*man*

DATE CONSIDERED

12/2003

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

AUG 28 2003

COPY  
PATENT & TRADEMARK OFFICEATTY. DOCKET NO.  
1997.0010003APPLICATION NO.  
09/698,249APPLICANT  
Fu et al.FILING DATE  
October 30, 2000GROUP  
2124

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
ma	AA2	6,144,712	11/2000	Samueli et al.			10/09/1997
	AB2	09/698,246		Fu et al.			10/30/2000
	AC2	09/699,088		Fu et al.			10/30/2000
	AD2						
	AE2						
	AF2						
	AG2						

RECEIVED

AUG 29 2003

Technology Center 2100

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AH2						
	AI2						
	AJ2						

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	2	Chen, A. et al., "Reduced Complexity CORDIC Demodulator Implementation for D-AMPS and Digital IF-Sampled Receiver," <i>Proc. Globecom 1998</i> , Vol. 3, pp. 1491-1496 (1998).
	AL	2	Cho, K., <i>A Frequency-Agile Single-Chip QAM Modulator with Beamforming Diversity</i> , Dissertation Submitted to the University of California, Los Angeles, 137 pages (1999).
	AM	2	Critchlow, D.N., <i>The Design and Simulation of a Modulatable Direct Digital Synthesizer With Non Iterative Coordinate Transformation and Noise Shaping Filter</i> , Thesis Submitted to the University of California, San Diego, 55 pages (1989).
	AN	2	Daneshrad, B., Ph.D., <i>System design of a 1.6 Mbps all-digital QAM transceiver for digital subscriber line applications</i> , Dissertation Submitted to the University of California, Los Angeles, 156 pages (1993).
	AO	2	Erup, L. et al., "Interpolation in Digital Modems - Part II: Implementation and Performance," <i>IEEE Transactions on Communications</i> , Vol. 41, No. 6, pp. 998-1008 (June 1993).
	AP	2	Farrow, C.W., "A Continuously Variable Digital Delay Element," <i>ISCAS' 88</i> , IEEE, pp. 2641-2645 (1988).

EXAMINER

ma

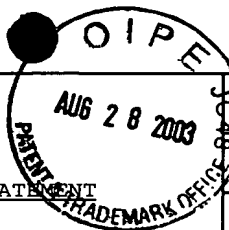
DATE CONSIDERED

12/03

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449

## INFORMATION DISCLOSURE STATEMENT


 CATTY. DOCKET NO.  
 1997.0010003

 APPLICATION NO.  
 09/698,249

 APPLICANT  
 Fu et al.

 FILING DATE  
 October 30, 2000

 GROUP  
 2124

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA3						
	AB3						
	AC3						
	AD3						
	AE3						
	AF3						
	AG3						

RECEIVED

AUG 29 2003

Technology Center 2100

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
	AH3						
	AI3						
	AJ3						

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	3	Fitz, M.P. and Lindsey, W.C., "Decision-Directed Burst-Mode Carrier Synchronization Techniques," <i>IEEE Transactions on Communications</i> , Vol. 40, No. 10, pp. 1644-1653 (October 1992).
	AL	3	Fowler, D.L. and Smith, J.E., "An Accurate, High Speed Implementation of Division by Reciprocal Approximation," <i>Proc. 9th Symp. On Computer Arithmetic</i> , pp. 60-67 (1989).
	AM	3	Freeman, H., <i>Discrete-Time Systems: An Introduction to the Theory</i> , John Wiley & Sons, Inc., Library of Congress Catalog Card Number 65-14255, Entire Book submitted (1965).
	AN	3	Fu, D. and Willson Jr., A.N., "Interpolation In Timing Recovery Using A Trigonometric Polynomial And Its Implementation," <i>Globecom 1998 Comm. Theory Mini Conf. Record</i> , IEEE, pp. 173-178 (November 1998).
	AO	3	Gardner, F.M., "Interpolation in Digital Modems - Part I: Fundamentals," <i>IEEE Transactions on Communications</i> , Vol. 41, No. 3, pp. 501-507 (March 1993).
	AP	3	Gardner, S., "Burst modem design techniques: part 1," <i>Electronic Engineering</i> , p. 85(5), (September 1999).

EXAMINER

DATE CONSIDERED

12/2003

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

AUG 28 2003

ATTY. DOCKET NO.  
1997.0010003APPLICATION NO.  
09/698,249APPLICANT  
Fu et al.FILING DATE  
October 30, 2000GROUP  
2124

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA4						
	AB4						
	AC4						
	AD4						
	AE4						
	AF4						
	AG4						

RECEIVED

AUG 29 2003

Technology Center 2100

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
	AH4						
	AI4						
	AJ4						

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	4	Gardner, S., "Burst modem design techniques: part 2," <i>Electronic Engineering</i> , p. 75(5), (December 1999).
	AL	4	Koren, I., <i>Computer Arithmetic Algorithms</i> , Prentice Hall, ISBN No. 0-13-151952-2, Entire book submitted (1993).
	AM	4	Lang, T. and Antelo, E., "CORDIC Vectoring with Arbitrary Target Value," <i>IEEE Transactions On Computers</i> , Vol. 47, No. 7, pp. 736-749 (July 1998).
	AN	4	Madisetti, A. et al., "A 100-MHz, 16-b, Direct Digital Frequency Synthesizer with a 100-dBc Spurious-Free Dynamic Range," <i>IEEE Journal of Solid-State Circuits</i> , Vol. 34, No. 8, pp. 1034-1043 (August 1999).
	AO	4	Madisetti, A., <i>VLSI Architectures and IC Implementations for Bandwidth Efficient Communications</i> , Dissertation submitted to the University of California, Los Angeles, 132 pages (1996).
	AP	4	Meyr, H. et al., <i>Digital Communication Receivers: Synchronization, Channel Estimation, and Signal Processing</i> , John Wiley & Sons, Inc., ISBN No. 0-471-50275-8, Entire book submitted (1998).

EXAMINER

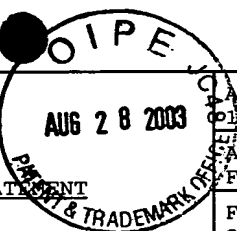
DATE CONSIDERED 12/03

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449

## INFORMATION DISCLOSURE STATEMENT

AUG 28 2003



ATTY. DOCKET NO.

01997.0010003

APPLICATION NO.

09/698,249

APPLICANT

Fu et al.

FILING DATE

October 30, 2000

GROUP

2124

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA5						
	AB5						
	AC5						
	AD5						
	AE5						
	AF5						
	AG5						

RECEIVED

AUG 29 2003

Technology Center 2100

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AH5						
	AI5						
	AJ5						

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	5	Moeneclaey, M., "A Simple Lower Bound on the Linearized Performance of Practical Symbol Synchronizers," <i>IEEE Transaction on Communications</i> , Vol. COM-31, No. 9, pp. 1029-1032 (September 1983).
	AL	5	Oerder, M. and Meyr, H., "Digital Filter and Square Timing Recovery," <i>IEEE Transactions on Communications</i> , Vol. 36, No. 5, pp. 605-612 (May 1988).
	AM	5	Pollet, T. and Peeters, M., "Synchronization with DMT Modulation," <i>IEEE Communications Magazine</i> , pp. 80-86 (April 1999).
	AN	5	Proakis, J. G., <i>Digital Communications, Third Edition</i> , McGraw-Hill, Inc., ISBN No. 0-07-051726-6, Entire book submitted (1995).
	AO	5	Proakis, J.G. and Manolakis, D.G., <i>Digital Signal Processing: Principles, Algorithms, and Applications, Second Edition</i> , Macmillan Publishing Company, ISBN No. 0-02-396815-X, Entire book submitted (1992).
	AP	5	Reimers, U., "Digital Video Broadcasting," <i>IEEE Communications Magazine</i> , pp. 104-110 (June 1998).

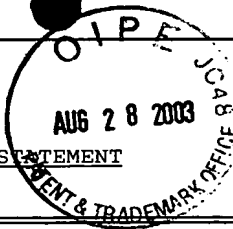
EXAMINER

DATE CONSIDERED 3/20/03

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449

## INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.  
1997.0010003APPLICATION NO.  
09/698,249APPLICANT  
Fu et al.FILING DATE  
October 30, 2000GROUP  
2124

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA6						
	AB6						
	AC6						
	AD6						
	AE6						
	AF6						
	AG6						

RECEIVED

AUG 29 2003

Technology Center 2100

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
	AH6						
	AI6						
	AJ6						

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	6	Sabel, L.P. and Cowley, W.G., "A Recursive Algorithm For The Estimation Of Symbol Timing In PSK Burst Modems," <i>Proc. Globecom 1992</i> , Vol. 1, pp. 360-364 (1992).
	AL	6	Tan, L.K., <i>High Performance Architectures And Circuits For QAM Transceivers</i> , Dissertation submitted to the University of California, Los Angeles, 208 pages (1995).
	AM	6	Tan, L.K. and Samueli, H., "A 200 MHz Quadrature Digital Synthesizer/Mixer in 0.8 $\mu$ m CMOS," <i>IEEE Journal of Solid-State Circuits</i> , Vol. 30, No. 3, pp. 193-200 (March 1995).
	AN	6	Vankka, J., "Methods of Mapping from Phase to Sine Amplitude in Direct Digital Synthesis," <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , Vol. 44, No. 2, pp. 526-534 (March 1997).
	AO	6	Vesma, J. and Saramäki, T., "Interpolation Filters With Arbitrary Frequency Response For All-Digital Receivers," <i>Proc. 1996 IEEE Int. Symp. Circuits Syst.</i> , pp. 568-571 (May 1996).
	AP	6	Vuori, J., "A Digital Multistandard Paging Receiver," <i>IEEE Transactions on Consumer Electronics</i> , Vol. 45, No. 4, pp. 1098-1103 (November 1999).

EXAMINER

DATE CONSIDERED

12/2003

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449

## INFORMATION DISCLOSURE STATEMENT

AUG 28 2003

ATTY. DOCKET NO.  
1997.0010003APPLICATION NO.  
09/698,249APPLICANT  
Fu et al.FILING DATE  
October 30, 2000GROUP  
2124

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA7						
	AB7						
	AC7						
	AD7						
	AE7						
	AF7						
	AG7						

RECEIVED

AUG 29 2003

Technology Center 2100

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
	AH7						
	AI7						
	AJ7						

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	I	Wang, S. et al., "Hybrid CORDIC Algorithms," <i>IEEE Transactions on Computers</i> , Vol. 46, No. 11, pp. 1202-1207 (November 1997).
	AL	I	Antelo, E. et al., "Redundant CORDIC Rotator Based on Parallel Prediction," pp. 172, 179, IEEE (1995).
	AM	I	
	AN	I	
	AO	I	
	AP	I	

EXAMINER



DATE CONSIDERED

12/2003

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.